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In the Supreme Court of the United States

October Term, 1978

No. 78-1901

ARTHUR M. HERSCHENSOHN and
CORONA HAIR NET CORP.,

Petitioners,

v.

ROBERT M. HOFFMAN,
HOFFMAN BEAUTY AND BARBER SUPPLY
CO., and ADVANCE DESIGN
LABORATORIES, INC.,

Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATE COURT OF APPEALS FOR THE NINTH CIRCUIT

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Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATE COURT OF APPEALS FOR THE NINTH CIRCUIT

Petitioners, Arthur M. Herschensohn and Corona Hair Net Corporation, respectfully pray that a writ of certiorari issue to review the judgment and opinion entered on March 26, 1979 by the United States Court of Appeals for the Ninth Circuit in its case number 77-1718.

OPINIONS BELOW

The opinion of the Court of Appeals is reported at 593 F.2d 893 and is reprinted in the Appendix to this petition at page A-1. The Memorandum of Decision and Order of the District Court for the Central District of California was not reported, and is reprinted in the Appendix to this petition at page A-14. The findings of fact and conclusions of law of the District Court for the Central District of California were not reported, and are reprinted in the Appendix to this petition at page A-21.

JURISDICTION

The judgment of the Court of Appeals was entered on March 26, 1979. This petition for a writ of certiorari was filed within ninety days of that date. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

QUESTIONS PRESENTED

1. Whether, in order for a combination of known elements to be patentable, there is a requirement that the combination have a synergistic effect as a substitute for or in addition to the requirement of nonobviousness under 35 U.S.C. § 103.

2. Whether a Court of Appeal can substitute its own finding of noninfringement for a finding of infringement by a trial court without holding that the trial court was clearly erroneous in its finding of infringement.

STATUTORY PROVISION INVOLVED

United States Code, Title 35:

> § 103. Conditions for patentability, nonobvious subject matter
>
> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

STATEMENT OF THE CASE

Petitioners are the patentee and the owner of United States Letters Patent 3,253,292 (hereinafter called "the Herschensohn patent") which is a patent on a hair brush. A copy of the Herschensohn patent is reprinted in the Appendix to this petition at page A-33. Claim 1 of the Herschensohn patent, which is representative of the claims in the patent, recites as follows:

> 1. In a hair brush of the character described, a handle, a brush back comprising a flexible spine element extending as a cantilever from said handle, a first series of closely spaced fingers extending laterally from one side and a second series of closely spaced fingers extending laterally from the opposite side of said spine element and tufts of relatively stiff bristles extending downwardly from at least the fingers of said brush back whereby when the brush is pulled through hair through which a comb can pass, said spine will bend so that the distal ends of the fingers on the trailing side of the brush will approach each other.

Petitioner Coronoa Hair Net Corp. manufactures and sells a hair brush which includes a spine element extending as a cantilever from the handle of the brush. The brush also includes a series of closely spaced finger elements extending laterally from both sides of the spine element. The bristles of the brush are formed from a relatively heavy monofilament nylon. A single strand of the monofilament nylon is folded near its center and is stapled into a hole in the fingers of the brush at the fold point. Both ends of the nylon monofilament project out of the hole, thereby forming a tuft of two bristles which extend downwardly from the fingers and other portions of the brush back. The handle, spine and fingers are molded as a single piece from a plastic known as polypropylene, which is the material specified in the Herschensohn patent as being the flexible material from which the flexible spine of the patent can be made.

The respondents are two corporations, one of which is a wholesaler and the other of which is a retailer of barber and beauty supplies, and an individual who owns 100% of the stock of both corporations. Respondents observed the success of petitioners' brush on the marketplace and undertook to have a mold copy of the brush manufactured in Hong Kong for their distribution in this country. When they did so, petitioners brought an action for patent infringement in the United States District Court for the Central District of California on June 13, 1975. Jurisdiction was founded upon 28 U.S.C. § 1338 (a) and venue existed under 28 U.S.C. § 1400 (b). The complaint charged infringement of the Herschensohn patent by reason of respondents' sale of the hair brush which they had copied from petitioners.

The action came for trial on November 12, 1976 before the Honorable Laughlin E. Waters, District Judge for the

United States District Court for the Central District of California. On January 20, 1977, Judge Waters' Memorandum of Decision and Order in this matter was entered, in which he found the Herschensohn patent to be valid and to have been infringed by the respondents. On February 28, 1977, findings of fact and conclusions of law and judgment in this matter were entered.

In his findings of fact and conclusions of law, Judge Waters made findings of fact concerning the scope and content of the art at the time the invention was made, the differences between the prior art and the claims of the patent, and the level of skill of a man having ordinary skill in the art at the time the invention was made, and concluded that the Herschensohn patent was not obvious and satisfied the requirements of 35 U.S.C. § 103. Judge Waters also found as a finding of fact that the brushes in question contain all of the elements of claims 1, 3, and 4 of the Herschensohn patent and that accordingly the acts of the respondents in selling the brushes were acts of infringement of the Herschensohn patent under 35 U.S.C. § 271 (a).

On March 26, 1979, the United States Court of Appeals for the Ninth Circuit reversed both of Judge Waters' holdings of validity and infringement. In its opinion, the Court of Appeals totally ignored the trial court's findings of fact concerning the scope and content of the prior art, the difference between the prior art and the claims at issue and the level of ordinary skill in the pertinent art. Instead, the Court of Appeals concluded that the Herschensohn patent was a combination of known elements which had no synergistic result (apparently defining that term as being "an effect greater than the sum of the several effects taken separately") and was thus invalid under this Court's rulings in *Anderson's - Black*

Rock v. Pavement Co., 369 U.S. 57 (1969) and *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976).

In reversing the findings of infringement and substituting its own holding of noninfringement, the Court of Appeals did not find that the trial court was clearly erroneous in finding that the brushes contained all of the elements of the claims of the Herschensohn patent. Instead, the Court of Appeals merely held that the accused brush "(1) does not have a flexible spine but a spine which will not bend on use; (2) does not have tufts of bristles, but one single monofilament folded to form two bristles; (3) which, by the trial court's Memorandum of Decision and Finding of Fact No. 22 has a purpose ('to be pulled through the hair with remarkable ease'), a purpose not listed in the patent and entirely different from the listed objects of the alleged invention." Appendix page A-19, 593 F.2d 893, 898.

(The opinion in the Court of Appeals also decided a second dispute between the same parties which had arisen out of the trial court proceeding and which had been combined with the case No. 77-1718 in the Court of Appeals. This second case, designated No. 77-2638 in the Court of Appeals, related to an appeal from a holding by the trial court that the respondents were in contempt of court. No review by this Court of the holding of the Court of Appeals in case No. 77-2638 is sought by petitioners.)

REASONS FOR GRANTING THE WRIT

As To The First Question

1. The Decision Below Conflicts With The Decision Of Other Courts Of Appeal As To The Proper Interpretation Of 35 U.S.C. § 103.

A. The History of the Conflict

The Patent Act of 1793 required that a device had to be both new and useful to be patentable. Act of February 21, 1793, ch. XI, § 1, 1 Stat. 318. Thereafter, a third requirement was judicially created. A device had to be an "invention" as well. *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1851). In the ensuing 100 years, most of the patent litigation in the courts struggled with this concept of invention. Attempts to define the concept were usually limited to the factual setting of a particular case or patent, and the result was an inconsistent and unpredictable body of law in which the ultimate decisions of patentability were based upon the subjective view of the reviewing court.

Congress revised the patent laws in 1952. The novelty and utility requirements ere maintained and recodified. 35 U.S.C. §§ 101, 102. Congress also dealt for the first time with "invention," and enacted 35 U.S.C. § 103, set forth above in its entirety. This section provides that even though the invention meets the requirements of 35 U.S.C. § 102, a patent still may not be obtained if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

Section 103 received its definitive interpretation by this Court in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). There, this Court, in calling for "strict observance" of its

requirements, laid out the analysis to be followed in cases involving the obviousness standard:

> "While the ultimate question of patent validity is one of law [citations omitted], the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved."

Id. at 17.

At no point in *Graham* or in the decision in its companion case, *United States v. Adams,* 383 U.S. 39 (1966), was synergism or any equivalent concept discussed, nor was any separate or different standard for patentability set forth for patents which involved a combination of known elements, although all patents involved in those cases were patents involving combinations of known elements.

The controversy over the proper interpretation of § 103 springs from this Court's subsequent decisions in *Black Rock* and *Sakraida,* both of which involved patents which were a combination of known elements and which this Court held invalid. In each case, the opinion made passing use of the word "synergistic." In *Black Rock,* the extent of the Court's discussion of synergism was limited to two sentences: "A combination of elements may result in an effect greater than the sum of the several effects taken together. No such synergistic result is argued here." 369 U.S. at 61. In *Sakraida*, the Fifth Circuit had held the patent valid and had stated that the invention did achieve a synergistic result. 474 F.2d 167, 173 (5th Cir. 1973). To this

conclusion, this Court responded: "We cannot agree that the combination of these old elements . . . can properly be characterized as synergistic . . . ." 425 U.S. at 282.

B. Lower Court Rulings after *Black Rock* and *Sakraida*

Since *Black Rock* and *Sakraida,* a conflict has developed among the Courts of Appeal for the various circuits as to what is the controlling test of patentability in cases involving combinations of known elements. Some courts have taken the view that synergism, and not the criteria articulated in *Graham,* is the controlling test in these cases. Other courts have taken the view that the criteria articulated in *Graham* is the controlling test for all patents, whether combinations of known elements or otherwise. Indeed, these courts have questioned whether such a thing as synergism exists as the term is used in mechanical and electrical patent cases.

It is difficult to imagine a case in which a requirement for synergism is presented more starkly than in the present proceedings. In its opinion below, the Court of Appeals does not even pay lip service to the criteria of *Graham,* which requires an analysis of the scope and content of the prior art, the difference between the prior art and the claims at issue and the level of ordinary skill in the art. Instead, the court looked solely to synergism, found none (although the respondents presented no evidence whatsoever as to the presence or absence of synergism) and reversed the holding of the trial court, which had applied the criteria of *Graham* and made the necessary factual findings to determine nonobviousness.

The court below is not the only court which has so interpreted § 103 in view of *Black Rock* and *Sakraida.* The Sixth Circuit has stated that in a combination of

known elements, the "synergistic result" constitutes the "key requirement" of patentability. *Phillips Industires, Inc. v. State Stove Manufacturing Co.,* 552 F.2d 1137, 1141 (6th Cir. 1975). The Fifth Circuit has similarly stated "only where a combination of old elements produces a 'synergistic result', *i.e.,* results 'in an effect greater than the sum of the several effects taken separately' is the device patentable." *Parker v. Motorola, Inc.,* 524 F.2d 518, 532 (5th Cir. 1975).

In "That Clumsy Word 'Nonobviousness'," 60 *Journal of the Patent Office Society* 3, Judge Edwards of the Court of Appeals for the Sixth Circuit has explicitly stated that the requirement for synergism is a test of patentability in addition to the nonobvious requirement of § 103. There Judge Edwards stated:

> "I also suggest that in dealing with combination claims, if no new element is added, the elements combined must produce a result greater than its parts added together *and* one which would not have been obvious to one skilled in the art involved."

60 *Journal of the Patent Office Society* at 13 (emphasis supplied).

In contrast to these holdings, the Seventh Circuit recently squarely considered this issue in *Republic Industries, Inc. v. Schlage Lock Co.,* 592 F.2d 963 (7th Cir. 1979), and concluded that the concept of synergism plays no proper part in the determination of nonobviousness under § 103, but that instead patentability must be determined solely by the criteria of *Graham. Id.* at 967-972.

The Court of Customs and Patent Appeals has similarly held that the test of patentability under § 103 is nonobviousness, not synergism, and that these two concepts are

not necessarily the same. *In re Kollman,* 595 F.2d 48, 55, fn. 6 (C.C.P.A., 1979).

There is thus a clear conflict between the various Circuits as to the proper test of patentability under § 103 of a combination of known elements. This conflict justifies the grant of certiorari to review the judgment below.

2. *The Decision Below Raises Significant And Recurring Problems Concerning The Standard Of Patentability Of A Combination Of Known Elements.*

Probably no issue in patent law in recent years has been the subject of more controversy or heated comment than the question of whether synergism is a requirement for patentability of a combination of known elements. Most of the commentators have sided strongly against the synergism test, viewing it with an alarm that frequently approaches ill-disguised panic. See, for example, Dula, "Sakraida v. Ag Pro, Inc.: Combination Patents Now Require Synergistic Effects," 15 Houston Law Review 157 (1977); Mintz, "The Standard of Patentability in the United States — Another Point of View," 1977 Detroit College Law Review 755 (1977); Rich, "Escaping the Tyranny of Words — Is Evolution in Legal Thinking Possible?" 60 Journal of the Patent Office Society 27 (1978); Schneider, "Nonobviousness, the Supreme Court, and the Prospects for Stability," 60 Journal of the Patent Office Society 304 (1978). These commentators frequently end with conclusions such as: "The Court's insistence upon clinging to the ill-advised phraseology of *Black Rock, A & P* and *Lincoln* represents a serious threat to the continued success of the patent system." Dula, op. cit. p. 171, and "The statute holds out the promise of enforceable rights for inventions which exceed the knowledge and skill of the

art, as the American people would expect our laws to do, while the Court has dashed the promise without acknowledgment or explanation." Mintz, op. cit., p. 793.

One of the few commentators to approve of the synergism test and to assert that the synergism test is undoubtedly required by *Black Rock* and *Sakraida* is Sears, "Combination Patents And 35 U.S.C. § 103," 1977 Detroit College Law Review 83. However, to explain the furor created in the profession by the synergism test, Sears feels compelled to invent an elaborate conspiracy theory involving a group which she terms the "patent coalition," which includes the Patent Office, the preponderance of the organized patent bar, the Court of Customs and Patent Appeals, the Commissioner of Patents, and the American Patent Law Association. *Id.* at 83, fn. 3. In order to defend her view of this Court's rulings, Sears feels compelled to launch virulent attacks upon Judge Conner of the Southern District of New York, Chief Judge Markey and Judge Rich of the C.C.P.A. and even the late Judge Learned Hand, along with various panels in the Second Circuit and the Ninth Circuit which have committed the grievous sin of holding combination patents valid. *Id.*, at 103, 104, fn. 103.

Indeed, the Sears attack was so strident that the Detroit College of Law Review published Mintz, op. cit., as a direct response thereto.

In this arena of shrill attack and counterattack, the Seventh Circuit's opinion in *Republic Industries* is like balm upon an open wound. *Republic Industries* calmly and rationally analyzes *Black Rock* and *Sakraida* against the backdrop of § 103 and *Graham*, and concludes "that *Sakraida* and *Black Rock*, rather than establishing an additional, different, or substituted test for nonobviousness under section 103, reaffirmed the continuing vitality

of *Graham*." 592 F.2d at 969.

Next, *Republic Industries* observes that virtually all inventions are combinations of previously known elements and that there can be no such thing as synergism in a mechanical arrangement, whether that term means that a whole has a result greater than the sum of its constituent parts or that some element in the combination functions different than it functions outside of the combination. *Id.* at 969, 970.

The court then observes:

> "To the extent that some combination of elements appears synergistic, it is a function of our imperfect knowledge of the properties of the parts. If one could truly get more out of a combination than was put into it, it would amount to a creation of something out of nothing, and would contravene the basic laws of nature as we understand them. If these laws remain valid, the appearance of synergism merely indicates prior ignorance instead of creation. Ignorance or lack of knowledge is, however, but part of the question of obviousness. Thus, at best, appearance of synergism is subsumed within the question of nonobviousness under section 103 and the *Graham* criteria."

Id. at 970, fn. 21.

Republic Industries next observes that, under the synergism test, one is required to look solely at the operation of the elements after they are combined, and that such an analysis suffers from two defects. The first is that this test must necessarily be premised on the assumption that it is always obvious to take known elements and combine them. The court found this bootstrap argument to

be unsound and not based in fact. The second and more basic defect which the court found with synergism is that § 103 expressly provides that the nonobviousness of the invention be at the time the invention was made, whereas synergism centers exclusively on the performance of the elements after combination and without regard to the obviousness or unobviousness of making the combination. Synergism thus does not comport with the *Graham* mandate to apply § 103. *Id.* at 971.

In concluding its analysis of synergism, *Republic Industries* states:

> "However, because synergism has prevented the development of a consistent, predictable body of law under section 103, and because the concept does not bear any logical *ipso facto* relationship to obviousness, the term has little, if any, utility. Therefore until Congress shall otherwise legislate or the Supreme Court shall otherwise specifically hold, this court will continue to apply the *Graham* analysis as the exclusive means by which to measure nonobviousness under section 103."

Id. at 972.

The issue of the presence or absence of an additional synergism test for the patentability of a combination of known elements is accordingly seen as probably the leading question in patent law today. It is a question which should be answered definitively by this Court at this time. Of course, the petitioners urge this Court to affirm the lucid holding of the Seventh Circuit in *Republic Industries*, but in any event the issue should be clearly resolved. This clearly justifies the grant of certiorari to review the judgment below.

As To The Second Question

The Decision Below Conflicts With The Decisions Of This Court And The Other Courts Of Appeal.

The trial court found as a finding of fact that the hair brushes sold by respondents contained all of the elements of claims 1, 3 and 4 of the Herschensohn patent and thus infringed the Herschensohn patent under the tests set by this Court in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950).

The Court of Appeals, without finding that the trial court was clearly erroneous, reversed the finding of infringement and substituted its own holding of noninfringement. In so doing, the Court of Appeals was clearly functioning as a trial court, and not as an appellate tribunal. The Court of Appeals held that the accused brush "(1) does not have a flexible spine but a spine which will not bend on use; (2) does not have tufts of bristles, but one single monofilament folded to form two bristles; (3) which, by the trial court's Memorandum of Decision and Finding of Fact No. 22, had a purpose ('to be pulled through the hair with remarkable ease'), a purpose not listed in the patent and entirely different from the listed objects of the alleged invention." Appendix, page A-19, 592 F.2d at 898.

But in *Graver Tank* this Court held that in determining infringement:

> "Like any other issue of fact, final determination requires a balancing of credibility, pursuasiveness and weight of evidence. It is to be decided by the trial court and that court's decision, under general principles of appellate

> review, should not be disturbed unless clearly erroneous."

339 U.S. at 609.

The "clearly erroneous" standard of review, required by *Graver Tank* and by Rule 52(a), Federal Rules of Civil Procedure, is followed by the other circuits in reviewing determinations of patent infringement. *Hadco Products, Inc. v. Frank Dini Co., Inc.*, 401 F.2d 462 (3rd Cir. 1968); *Porter-Cable Machine Co. v. Black & Decker Manufacturing Co.*, 402 F.2d 517 (4th Cir. 1968); *Marvin Glass & Associates v. Sears Roebuck & Co.*, 448 F.2d 60 (5th Cir. 1971); *United States Plywood Corp. v. General Plywood Corp.*, 370 F.2d 500 (6th Cir. 1967); *Independent Pneumatic Tool Co. v. Chicago Pneumatic Tool Co.*, 194 F.2d 945 (7th Cir. 1952); and *McCullough Tool Co. v. Well Surveys, Inc.*, 343 F.2d 381 (10th Cir. 1965).

The Court of Appeals apparently did not base its reversal on a finding of clear error, but instead based it upon the trial court's refusal to adopt certain findings of fact which were proposed by the respondent after the trial court had entered its Memorandum of Decision and Order. Specifically, the Court of Appeals apparently based its finding that the spine of the brush is not flexible on the trial court's refusal to make an independant finding that the spine is flexible. The Court of Appeals said that the District Court was "apparently convinced that the spine was not flexible." 593 F.2d at 897. Similarly, the Court of Appeals said that the trial court refused a request from respondents for a specific finding that the single filament of their brush "constitutes tufts of relatively stiff material, apparently convinced to the contrary." *Id.* at 898.

The error of these conclusions by the Court of Appeals

is obvious from a reading of Judge Waters' finding number 7 (see Appendix p. A-24) which states:

> 7. The subject brushes and the "VENT" brush all contain all of the elements of claims 1, 3 and 4 of the '292 patent, which claims are reproduced above. Polypropylene, which is utilized in both the subject brushes and the "VENT" brush is a flexible material as is defined in the patent. Further, the change in the number of bristles in each tuft is not significant, since a "tuft" of bristles is still a tuft whether it contains a number of bristles or simply one bristle folded over into two bristles, such as is the case in both "VENT" brushes and the subject brushes. The subject brushes thus contain all the elements of claims 1, 3 and 4 of the '292 patent . . . .

Thus, the trial court had already entered an express finding of fact that the respondents' hair brush contained a flexible spine, tufts and *all* of the elements of the claims of the Herschensohn patent, which of necessity included the specific elements just discussed. Thus, far from being convinced that respondents' brush did not contain these elements, the trial court merely refused to add redundant findings of fact (which were included with numerous other requested findings of fact by respondents).

The trial court and the Court of Appeals both correctly noted that the hair brush in question turned out to have utility beyond that recognized by the inventor at the time he filed his patent application. Indeed, petitioners have always conceded that the primary utility of their hair brush turned out to be a use which was not contemplated at all by the inventor at the time he made his invention. But the trial court correctly held that the patentee is entitled to rely upon subsequent events which render his device more

valuable, and that an inventor is entitled to whatever merits his invention has, even though they may be greater than he supposed. A patent is not invalid because all of its advantages or possibilities were not understood or known to the inventor at the time of the invention. 4 *Deller's Walker on Patents,* Second Edition, Section 238; *Tapco Products Co. v. Van Mark Products,* 446 F.2d 420, 429 (6th Cir. 1971), cert. denied 404 U.S. 986 (1971); *Triangle v. National Electric,* 149 F.2d 87 (3rd Cir. 1945), cert. denied 326 U.S. 744 (1945).

Thus, far from the trial court's finding of infringement being "clearly erroneous" (which the Court of Appeals did not even hold it to be), it is clear that it was the holding of the Court of Appeals that was based upon erroneous legal or logical standards. Because this Court and all other Courts of Appeal who have considered the issue have held that a finding of infringement by a trial court can only be reversed if it is clearly erroneous, these conflicts justify the grant of certiorari to review the judgment below.

CONCLUSION

For these reasons, a writ of certiorari should issue to review the judgment and opinion of the Ninth Circuit.

Respectfully submitted,

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APPENDIX

United States Court of Appeals
For the Ninth Circuit

No. 77-1718
No. 77-2638

ARTHUR M. HERSCHENSOHN and
CORONA HAIR NET CORPORATION,

Plaintiffs-Appellees,

v.

ROBERT M. HOFFMAN, individually;
ROBERT M. HOFFMAN, dba IMAGE PRODUCTS CO. and ADVANCED DESIGN LABORATORIES;
HOFFMAN BEAUTY AND BARBER SUPPLY CO.;
HOFFMAN BEAUTY AND BARBER SUPPLY CO., dba IMAGE PRODUCTS CO. AND ADVANCED DESIGN LABORATORIES,

Defendants-Appellants.

APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF CALIFORNIA

OPINION

Before: CARTER and WRIGHT, Circuit Judges, and CRAIG, District Judge.[1]

CARTER, Circuit Judge:

This is an action for infringement of Patent No. 3,253,292 (hereafter No. 292), wherein the district court entered a Judgment that the patent was valid and infringed and awarded damages. This is Appeal No. 77-1718.

Thereafter, a Judgment was entered holding defendants in contempt for offering to sell their devices during the

[1] Hon. Walter E. Craig, Chief U.S. District Judge, District of Arizona, sitting by designation.

period between the receipt of a Memorandum of Decision and the entry of Judgment for the plaintiffs. The appeal in this proceeding is No. 77-2638. We reverse both Judgments.

FACTS

On May 15, 1964, Herschensohn, one of the plaintiffs herein, filed an application for letters-patent. The patent, No. 292, was issued on March 31, 1966.

Prior to 1971, plaintiffs sold a brush made from a flexible copolmyer plastic with tufts of bristles, including 7 or 8 slender strands folded to form 14 to 16 bristles. Exhibit 3, in evidence, is an example of this brush. In 1971, the design was changed by the plaintiffs so that each tuft was formed from a single heavier monofilament folded to form two bristles, one longer than the other.

In 1974, the handle, spine and fingers were made from a plastic material which was less flexible than the original copolmyer plastic material. Exhibit 2, in evidence, is an example of this second brush.

Defendants admittedly copied the latter brush, Exhibit 2, by having an organization in Hong Kong make the brushes and import them to the United States. They were literally "Chinese copies" of plaintiffs' second brush, Exhibit 2. Exhibit 5, in evidence, is an example of the defendants' alleged offending brush.

Patent No. 292 has four claims, of which #1, #3 and #4 are alleged to be infringed. Claim #1 is the only independent claim. Claims #3 and #4 are merely minor variations of Claim #1.

Claim #1 reads as follows:

> 1. In a hair brush of the character described, a handle, a brush back comprising a flexible spine element extending as a cantilever from said handle, a first series of closely spaced fingers extending laterally from one side and a second series of closely spaced fingers extending laterally from the opposite side of said spine element and tufts of relatively stiff bristles extending downwardly from at least the fingers of said brush back whereby when the brush is pulled through hair through which a comb can pass, said spine will bend so that the distal ends of the fingers on the trailing side of the brush will approach each other.

The appeals raise three questions:

1. The validity of the patent claims, #1, #3 and #4.
2. Whether the patent claims were infringed.
3. Was there a valid injunction in the Memorandum of Decision which can sustain the Contempt Judgment.

VALIDITY

The patent sets forth a combination of old elements, four in number: a handle, a flexible spine, laterally extended fingers, and tufts of relatively stiff bristles. All of these elements are old in the art and no discussion of this art is necessary. The patent, therefore, is a combination patent and is controlled by the Supreme Court decisions on such patents. One of the latest such cases is *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976). There a unanimous Court reviewed the earlier cases and reversed the Fifth Circuit decision which had held the patent valid.

Congress in 1952 enacted 35 U.S.C. § 103, "as a codification of judicial precedents . . . with congressional directions that inquiries into the obviousness of the

subject matter sought to be patented are a prerequisite to patentability." *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Section 103 provides:

> "A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

In *Sakraida, supra,* the Court said (at 280):

> "The ultimate test of patent validity is one of law, *Great A. & P. Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 155 (1950), but resolution of the obviousness issue necessarily entails several basic factual inquiries, *Graham v. John Deere Co., supra,* at 17.
>
> > 'Under § 103, the scope and content of the prior art to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.' *Ibid.*"

* * * *

"Indeed, respondent admitted at trial 'that the patent is made up of a combination of old elements' and 'that all elements are individually old . . . .' Accordingly, the District Court

properly followed our admonition in *Great A. & P. Tea Co. v. Supermarket Corp., supra,* at 152: 'Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements . . . . A patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men . . . .' " *Sakraida, supra,* pp. 280-1.

"We cannot agree [with the appeals court below] that the combination of these old elements . . . can properly be characterized as synergistic, that is, 'result[ing] in an effect greater than the sum of the several effects taken separately.' *Anderson's-Black Rock v. Pavement Co.*, 396 U.S. 57, 61 (1969). Rather, this patent simply arranges old elements with each performing the same function it had been known to perform, although perhaps producing a more striking result than in previous combinations. Such combinations are not patentable under standards appropriate for a combination patent. *Great A. & P. Tea Co. v. Supermarket Corp., supra*; *Anderson's-Black Rock v. Pavement Co., supra.* Under those authorities this assembly of old elements . . . falls under the head of 'the work of the skillful mechanic, not that of the inventor.' *Hotchkiss v. Greenwood,* 11 How., at 267 . . . .

". . . . [D]esirable benefits 'without invention will not make patentability.' *Great A. & P.*

Tea Co. v. Supermarket Corp., 340 U.S. at 153 . . . ." *Sakraida, supra,* pp. 282-3.

Counsel for the plaintiffs apparently never understood fully the requirement that a patent based on a combination of elements old in the art must produce a new and unusual result. Counsel stated: "These defendants have asserted that these cases require a patent to have a synergistic result . . . . In their trial brief they said they had to make 2 plus 2 equal 5, which was the expression they used. This appears to be an assertion of one of two things: either 1, an assertion that the Supreme Court has overruled the patent system, or, 2, a requirement that you have to violate or at least disprove a known law of nature before you can have a valid patent. Because obviously 2 plus 2 never equals 5 [sic] . . . ." Plaintiffs failed to identify a synergistic result.

The trial court, in Finding of Fact #22, stated:

> "22. The brush of the '292 patent does produce an unusual or surprising result which would not be expected by the man having ordinary skill in the art. The flexibility of the brush's spine element, when coupled with the plurality of bristle carrying fingers extending laterally on each side of the flexible spine, with the vents between the finger members, allows the brush to be pulled through the hair with remarkable ease. This is an unusual or surprising consequence from the unification of the elements concerned. It is an unusual or suprising result. It is not merely the sum of the results of the individual elements of the brush but is instead an effect greater than the sum of the effects of the several elements of the brush taken separately."

The trial court's Memorandum of Decision was similar.

We conclude that Claims #1, #3 and #4 of the patent are invalid. Claim #1 recited that the bending of the distal ends of the fingers on the trailing side of the brush "would approach each other." The patent lists various purposes:

(1) Mechanical action to penetrate thick tresses, dig into the scalp and cause drag on the hair and scalp to accomplish the effects of massage.

(2) To agitate the root of the hair and its associated muscle tissue and bring additional sebum to the hair and increase the luster of the hair.

(3) To automatically pinch and tug the hair and thus exercise the hair roots and their environments.

(4) To provide a hair brush which is easily cleanable, simple in construction, reasonable in cost, and efficient in carrying out the purposes for which it was designed.

(5) Finally, since the tips of the fingers in the patent all come towards each other, causing the bristle tufts to pinch the hair between them, the bristles are generally of stiff material. The attendant movement of the brush will cause the pinched hair to be tugged, dragged on and pulled.

None of these listed "purposes" of the patent produce a "new or different function" (*Andersons's-Black Rock v. Pavement Co.,* 396 U.S. 57 at 60 (1969)) from that produced by the old elements in the combination.

The result claimed by plaintiffs as synergistic, "pulling the brush through the hair with remarkable ease" (Memorandum of Decision) is contrary to the teachings of the patent. The use of two bristles in each tuft, as shown in Exhibit 2, may assist in allowing the brush to be pulled through the hair with ease. The use of such a bristle to accomplish ease of pulling through the hair would be obvious.

Certainly, the two results referred to by the court in its Memorandum of Decision — (1) allowing the brush to be pulled through the hair with remarkable ease, and (2) the vents allowing the hair to be easily blown dry — are not new or unusual results.

It is obvious from the above that the patent is not valid, having no new, unusual or synergistic result,[2] and having no beneficial use other than uses already old in the art of brushes and combs. We also hold Claims #1, #3 and #4 of the patent are invalid for obviousness.

INFRINGEMENT

We have examined closely Exhibits 2, 3 and 5. Exhibit 5 is the offending device and a copy of Exhibit 2. Exhibit 3 was the brush made and sold by plaintiffs prior to 1971. The parties stipulated that Exhibit 3 was within the scope and claims of Patent No. 292.

Claim #1 of the patent was limited to a brush "comprising a flexible spine element extending from the handle." It provided: "Said spine will bend so that the distal ends of the fingers on the trailing side of the brush will approach each other." The claim also was limited to "tufts of stiff bristles."

None of these elements are found in the accused structure, Exhibit 5. Examination shows the spine will not

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[2]Late cases in the Ninth Circuit are in accord with our holding. A combination patent (*i.e.*, an accumulation of old devices) is valid "only when the whole in some way exceeds the sum of its parts . . . ." *Astro Music, Inc. v. Eastham*, 564 F.2d 1236, 1238 (9 Cir. 1977).

Austin v. Marco Dental Products, Inc., 560 F.2d 966 (9 Cir. 1977) also involved a combination patent and is in accord with our holding herein.

bend so as to be flexible enough to bend while the brush is run through the hair. The brush will not function as described in the patent, *i.e.*, the fingers will not "come towards each other, causing the bristle tufts to pinch the hair between them . . ." (Patent, p. 1, column 2, lines 56-63), nor, as described in Claim #1, will "said spine . . . bend so that the distal ends of the fingers on the trailing side of the brush . . . approach each other." (Patent, p. 2, column 2, lines 4-6.)

The plaintiff-inventor testified that the term "flexible" requires sufficient bending to bring the bristles together to grab or clamp the hair between tufts instead of merely floating through the hair. Examination shows that Exhibit 2 or Exhibit 5 cannot cause the above actions.

The trial court, although requested to find as a fact that the spine of the accused device, Exhibit 5, was flexible (R.T. 213), refused to do so, apparently convinced that the spine was not flexible. Likewise, the court, although requested to find that the mode of operation of Exhibit 5 was as set forth in the patent at Column 2, lines 56-63, refused to do so, apparently convinced that it did not.

Plaintiffs' expert, Mr. Walsh, in describing the operation of plaintiffs' brush, Exhibit 2 (copied by defendants as Exhibit 5) testified that Exhibit 2 was not flexible in the sense used in the patent and that the brush creates no drag or pull.

Also missing from the accused brush, Exhibit 5, are "tufts of relatively stiff bristles." The court refused a request for a finding that the single filament of Exhibit 5 constitutes tufts of relatively stiff material, apparently convinced to the contrary. The substitutions of one filament making two bristles insured the floating movement of the brush, but the elimination of any pulling or grabbing of the hair.

In our case we have an accused device, the brush, Exhibit 5 (a copy of the plaintiffs' brush, Exhibit 2), which does not have the structure or the function described in the patent. It (1) does not have a flexible spine but a spine which will not bend on use; (2) does not have tufts of bristles, but one single monofilament folded to form two bristles; (3) which, by the trial court's Memorandum of Decision and Finding of Fact #22, has a purpose ("to be pulled through the hair with remarkable ease"), a purpose not listed in the patent and entirely different from the listed objects of the alleged invention; (4) which has no new or unusual or synergistic result; and (5) in toto, a device or brush having a different structure and a different mode of operation and effect than that described in the patent.

It is clear that Exhibit 2, the plaintiffs' device which defendants admittedly copied, and Exhibit 3, the device made by plaintiffs prior to 1971, are different brushes in structure and operation. We have held that the patent claims, #1, #3 and #4, are not valid. But even if valid, it was *not* Exhibit 3 which was copied but Exhibit 2. Exhibit 2 does not infringe the patent.

THE CONTEMPT JUDGMENT

The trial court's Memorandum of Decision was entered on January 20, 1977. On February 28, 1977, the final Judgment was entered. The plaintiffs moved to hold defendants in contempt of court for allegedly violating an injunction against infringement which plaintiffs claim was included within the Memorandum of Decision. After a hearing, Findings of Fact, Conclusions of Law, and a Judgment of Contempt were entered on April 4, 1977, against defendants. Defendants have appealed the Contempt Judgment in Appeal No. 77-2638.

The general rule is that an unpatented object may be copied and sold. *Sears, Roebuck & Co. v. Stiffel Company,* 376 U.S. 225 (1964) and *Compco. Corp. v. Day-Brite Lighting, Inc.,* 376 U.S. 234 (1964).

Since we have held the patent invalid, the sole question presented on Appeal No. 77-2638 is whether, after January 20, 1977, there was in effect a valid injunction against infringement by defendants of the plaintiffs' alleged patent.

The Memorandum of Decision ended with an order:

> "It is therefore Ordered that judgment *be entered* for plaintiffs in the amount specified above and that the defendants *be permanently enjoined* from further infringing plaintiffs' patent. Counsel for plaintiffs is directed to *prepare proposed findings of fact, conclusions of law and judgment* pursuant to local Rule 7. (Judgment shall be set forth as a separate document as required by Rule 58, F.R. Civ. P.)
>
> Dated January 17, 1977
>
> *Laughlin E. Waters*
> United States District Judge"
>
> (Emphasis added)

There are various reasons which demonstrate plaintiffs are in error in their contention that the Memorandum and Order constitute an injunction.

(1) The Memorandum and Order speak of the future. It does not state that defendants *are* enjoined, but, instead, "be" permanently enjoined. We read the language as a direction — the defendants [*will*] be enjoined, after the proposed Findings and Judgment are prepared by plain-

tiffs' attorney and signed by the court. The Final Judgment, dated February 28, 1977, stated that the defendants and their agents "*are* forever enjoined and restrained."

(2) Rule 58, F.R. Civ. P. requires —

> "Every judgment shall be set forth on a separate judgment. A judgment is effective only when so set forth, and when entered as provided in Rule 79(a)."

A recent Supreme Court case, *Bankers Trust Co. v. Mallis,* 435 U.S. 351 (1978), decided after the Contempt Judgment, may have pulled some of the teeth in Rule 58, *supra,* by providing that in certain cases the rule may be waived by the parties. Regardless of the effect or retroactivity, if any, of that case, Rule 58 must be viewed as having a bearing on the intent of the court and the parties as to whether an injunction was intended. The Memorandum directed counsel for the plaintiffs to prepare findings of fact and conclusions of law and judgment pursuant to local Rule 7 and Rule 58, F.R. Civ. P. Local Rule 7 of the Central District of California requires findings of fact and conclusions of law and implements Rule 58, F.R. Civ. P.

(3) Plaintiffs argue that there was an injunction *pendente lite* in the Order. However, the Order speaks of *preparation* of a *permanent* injunction.

(4) Rule 65(c), F.R. Civ. P. requires security or a bond, unless the court directs otherwise, and findings of fact to support the injunction.

(5) Rule 65(d), F.R. Civ. P. requires that an injunction ". . . shall describe in reasonable detail, and not by reference to the complaint or other documents, the act or acts to be restrained . . . ." The Memorandum of

Decision signed by the court did not comply with Rule 65(c) or (d).

(6) Plaintiffs cite no authority that the Memorandum of Decision can be an injunction, and defendants could find none.

It is true that an injunction must be obeyed while objections and questions are presented on appeal. But plaintiffs assume that an injunction was issued. We find that no injunction was issued, but only direction for the entry of a permanent injunction against infringement. The rule of law above does not apply.

The judgments are reversed and the case remanded to the district court for entry of a judgment on non-validity and non-infringement.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CV No. 75-2009-LEW

ARTHUR M. HERSCHENSOHN and
CORONA HAIR NET CORPORATION,

Plaintiffs,

v.

ROBERT M. HOFFMAN, individually;
ROBERT M. HOFFMAN, dba IMAGE PRODUCTS CO. and ADVANCED DESIGN LABORATORIES;
HOFFMAN BEAUTY AND BARBER SUPPLY CO.;
HOFFMAN BEAUTY AND BARBER SUPPLY CO., dba IMAGE PRODUCTS CO. and ADVANCED DESIGN LABORATORIES,

Defendants.

MEMORANDUM OF DECISION AND ORDER

Plaintiff Corona Hair Net Corporation, doing business as the Bobby Company, is the assignee of a patent issued to plaintiff Arthur M. Herschensohn on May 31, 1966, as U.S. Patent 3,253,292 (the "292" patent). Plaintiffs allege that their patent, entitled "Hair Brushes," has been infringed by defendants Hoffman Beauty and Barber Supply Company, Advance Design Laboratories Inc., and Robert M. Hoffman, the latter being President and sole stockholder of the two defendant corporations. By way of counterclaim, defendants assert that the patent is invalid. This court has jurisdiction over these claims pursuant to 28 U.S.C. § 1338 and 35 U.S.C. §§ 28 and 29.

The "292" patent describes a hair brush which includes a handle, a flexible spine extending from the handle, a first series of fingers extending laterally from one side of the spine, a second series of fingers extending laterally from the opposite side of the spine, and tufts of stiff bristles extending downwardly from the fingers. The object of this invention is "to provide novel and improved hair brushes affording mechanical action to penetrate thick tresses, dig to the scalp and cause drag on the hair and scalp to accomplish the effects of massage and which brushes by their automatic manipulations give users a new hair-brushing sensation." See attached Exhibit A. The claims which are alleged to have been infringed are claims 1, 3, and 4. These claims assert the following:

> Claim 1: "In a hair brush of the character described, a handle, a brush back comprising a flexible spine element extending as a cantilever from said handle, a first series of closely spaced fingers extending laterally from one side and a second series of closely spaced fingers extending laterally from the opposite side of said spine element and tufts of relatively stiff bristles extending downwardly from at least the fingers of said brush back whereby when the brush is pulled through hair through which a comb can pass, said spine will bend so that the distal ends of the fingers on the trailing side of the brush will approach each other."
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> Claim 3: "A hair brush as defined in Claim, 1, wherein the handle is elongated and said spine element extends from an end of said handle."
>
> Claim 4: "A hair brush as defined in claim 1, wherein the fingers of the first series and those of the second series extend from opposite regions of the spine element respectively."

Prior to 1971, The Bobby Company made and sold a hair brush within the scope and claims of the "292" patent. The handle, spine, and fingers were made from a flexible copolymer plastic and each tuft of bristles included seven or eight slender strands folded to form fourteen or sixteen bristles. In 1971, the design of the brush was changed such that each tuft was formed from a single, heaver monofiliment folded to form two bristles, one longer than the other. In approximately 1974, the original copolymer plastic was no longer available to The Bobby Company, and thereafter the handle, spine, and fingers were made from a plastic material that was somewhat less flexible than the original copolymer plastic material. This hair brush is the principal product of The Bobby Company and is marketed under the designation "Vent" brush.

Defendant Advanced Design Laboratories, Inc. imports and markets a hair brush which it has sold at different times under the designation "Image Movement" brush and "Image Air Flow" brush (hereinafter referred to as the "subject brushes"). The subject brushes are mold copies and thus identical to The Bobby Company's "Vent" brush. Advanced Design Laboratories, Inc. arranged with a manufacturer in Hong Kong to have The Bobby Company's "Vent" brush duplicated, and imports the copies of this brush into the United States. Advanced Design Laboratories, Inc. distributes the subject brushes through many distributors and dealers, including defendant Hoffman Beauty and Barber Supply Company.

This court's analysis begins with the statutory presumption that a patent issued by the United States Patent Office is valid. Section 282 of Title 35, United States Code, provides in pertinent part:

> "A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it."

See also: Park-In Theatres v. Rogers, 130 F.2d 745 (9th Cir. 1942) and *Patterson-Ballagh v. Moss,* 201 F.2d 403 (9th Cir. 1953). This presumption of validity is weakened when it is shown that pertinent prior art was not before the patent examinees. *Norwood v. Ehrenreich Photo-Optical Industries, Inc.,* 529 F.2d 3, 9 (9th Cir. 1975), *Hewlett-Packard Company v. Tel-Design, Inc.,* 460 F.2d 625, 628 (9th Cir. 1972). In the instant case, the record discloses that the patent examiners did consider four prior patents.[1] Defendants have cited four additional prior patents in support of their contention that plaintiff's brush does not represent a new invention.[2] This court has carefully examined this prior art and is unable to conclude that it suggested plaintiffs' invention to a man of ordinary skill in the art. This court finds that plaintiffs' brush, while incorporating many existing features of brushes, is significantly different from that which preceded it, and therefore concludes that the patent is not invalid for lack of invention within the scope of 35 U.S.C. § 103.[3]

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[1]The four prior patents considered were:

(1) U.S. Patent No. 831,493 (Wilcox patent);
(2) U.S. Patent No. 1,860,924 (Cooke patent);
(3) U.S. Patent No. 2,185,050 (Chiraello patent);
(4) U.S. Patent No. 2,796,620 (Bressler patent).

[2]The four additional patents cited are:

(1) U.S. Patent No. 2,003,243 (Campbell patent);
(2) U.S. Patent No. 2,196,812 (Kreutzig patent);
(3) U.S. Patent No. 2,661,007 (Bauer patent);
(4) Italian Patent No. 474,383.

[3]Section 103, added to the patent laws in 1952, provides:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this

In further support of this conclusion this court notes that plaintiffs' brush has enjoyed a great deal of commercial success. While such consideration does not overcome a lack of invention, it does strengthen further the presumption of patent validity. *Great Atlantic and Pacific Tea Company v. Supermarket Equipment Corp.*, 340 U.S. 147, 153 (1950). This court also notes that plaintiff was forced to bring three infringement actions prior to the instant action and that all three actions ended in settlement. While these settlements are far from conclusive since they could have been settled for a variety of reasons, they are at least some evidence of the fact that plaintiffs' brush represented something new in the field and worthy of imitation.

Since the "292" patent is in large part a combination patent, this court must apply the principles of patentability with "special strictness." *Jeddeloh Brothers Sweed Mills, Inc. v. Coe Manufacturing Co.*, 375 F.2d 85, 88 (9th Cir. 1967). In examining combination patents, the Supreme Court has indicated that a device is not an invention unless there are "unusual or surprising consequences from the unification of the elements . . . concerned." *Great Atlantic and Pacific Tea Company v. Supermarket Equipment Corp., supra,* at 152. The Ninth Circuit has formulated the test in a similar fashion, stating that the combination of old elements must produce an "unusual or surprising result." *Hewlett-Packard Company v. Tel-Design, Inc., supra,* at 629.

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title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

Turning to the "292" patent, this court finds that the patent does produce such an unusual or surprising result. The flexibility of the brush's spine element when coupled with the vents allows the brush to be pulled through the hair with remarkable ease. These vents further allow the hair to be more easily blown dry, and while the use of blow dryers was not widespread at the time the patent was issued, plaintiff nonetheless can rely upon subsequent events which render his device more valuable. *See* 4 Deller's Walker on Patents, 2d Ed., § 238; *Tapco Products Company v. Van Mark Products Corporation,* 446 F.2d 420, 429 (6th Cir. 1971). All in all, while plaintiffs' brush at first glance apears to be a rather simple device, it is in fact a truly novel device which possesses great value.[4] Accordingly, this court finds that plaintiffs' patent is valid since it meets the tests of validity, namely, utility, novelty, and nonobviousness.

Finally, this court concludes that the changes made by plaintiffs in their brush are not substantial enough to place the brush outside the scope of the original patent. The change in the plastic material utilized does not render the brush significantly less flexible. Further, the change in the number of bristles in each tuft is also insignificant since a "tuft" of bristles is still a tuft whether it contains a number of bristles or simply one bristle folded over into two bristles. Since the brush manufactured and sold by defendants is virtually an exact copy of the patented brush sold by plaintiffs, this court concludes that plaintiffs' patent has been infringed by defendants.

In conclusion, this court finds that plaintiffs' patent is valid and has been infringed by defendants. Accordingly,

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[4]During the trial, plaintiffs presented expert testimony in support of this conclusion. Defendants failed to offer any testimony in rebuttal.

this court finds that plaintiffs are entitled to damages in the amount of $25,000.00, plus interest, said figure representing the profits realized by defendants as a result of their infringing activities. The court notes that this figure is derived from the Pre-Trial conference Order filed in this case. As such, there was no evidence presented at the trial to contest the accuracy of this figure.

IT IS, THEREFORE, ORDERED that judgment be entered for plaintiffs in the amount specified above, and that defendants be permanently enjoined from further infringing plaintiffs' patent. Counsel for plaintiffs is directed to prepare proposed findings of fact, conclusions of law, and judgment pursuant to Local Rule 7. (Judgment shall be set forth as a separate document as required by Rule 58, F.R.Civ.P.)

DATED: January 17, 1977.

LAUGHLIN E. WATERS
United States District Judge

United States District Court
Central District of California

Civil Action No.
CV 75-2009-LEW

ARTHUR M. HERSCHENSOHN and
CORONA HAIR NET CORPORATION,

Plaintiffs,

v.

ROBERT M. HOFFMAN, individually;
ROBERT M. HOFFMAN, dba IMAGE PRODUCTS CO. and ADVANCED DESIGN LABORATORIES;
HOFFMAN BEAUTY AND BARBER SUPPLY CO.;
HOFFMAN BEAUTY AND BARBER SUPPLY CO., dba IMAGE PRODUCTS CO. and
ADVANCED DESIGN LABORATORIES,

Defendants.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

1. This is an action for patent infringement. This Court has jurisdiction pursuant to 28 USC 1338. Venue is properly laid in this Court pursuant to 28 USC 1400.

2. Plaintiff ARTHUR M. HERSCHENSOHN (hereinafter called "Herschensohn") is the inventor of United States Patent 3,253,292 entitled "HAIR BRUSHES", which issued on May 31, 1966. This patent, which is hereinafter called '292 patent, is the patent in suit. Herschensohn is president and a principal shareholder of plaintiff CORONA HAIR NET CORPORATION. CORONA HAIR NET COR-

PORATION does business under the fictitious name "The Bobby Company" and is hereinafter referred to as The Bobby Company.

3. Defendant ROBERT M. HOFFMAN (hereinafter called Hoffman) is the president of both defendant ADVANCE DESIGN LABORATORIES, INC. (hereinafter called ADL) and defendant HOFFMAN BEAUTY AND BARBER COMPANY (hereinafter called Supply Company). Hoffman owns all of the stock of both ADL and Supply Company.

4. The '292 patent describes a hairbrush which includes a handle, a flexible spine extending from the handle, a first series of fingers extending laterally from the opposite side of the spine, and tufts of stiff bristles extending downwardly from the fingers. In the brush described in the '292 patent, the handle, the flexible spine and the first and second series of fingers extending laterally from opposite sides of the spine are formed as a unitary member which the patent specifies may be made of any suitable flexible plastic, such as polypropylene, for instance. The claims of the patent in this suit are claims 1, 3 and 4. These claims recite as follows:

> 1. In a hair brush of the character described, a handle, a brush back comprising a flexible spine element extending as a cantilever from said handle, a first series of closely spaced fingers extending laterally from one side and a second series of closely spaced fingers extending laterally from the opposite side of said spine element and tufts of relatively stiff bristles extending downwardly from at least the fingers of said brush back whereby when the brush is pulled through hair through which a comb can pass, said spine will bend so that the distal ends of the fingers on the trailing side of the brush will

> approach each other.
>
> 3. A hair brush as defined in claim 1, wherein the handle is elongated and said spine element extends from an end of said handle.
>
> 4. A hair brush as defined in claim 1, wherein the fingers of the first series and those of the second series extend from opposite regions of the spine element respectively.

5. Prior to 1971, The Bobby Company made and sold a hair brush within the scope and claims of the '292 patent. The handle, spine and fingers in that brush were made from a copolymer plastic which was even more flexible than polypropylene, and each tuft of bristle included seven or eight slender strands folded to form 14 or 16 bristles. In 1971, the design of the brush was changed such that each tuft was formed from a single, heavier monofilament folded to form two bristles, one longer than the other. In approximately 1974, the copolymer plastic from which the handle, spine and fingers was made was no longer available to The Bobby Company, and thereafter, the handle, spine and fingers were made from polypropylene, which is the material specified in the patent. This brush is the principal product of The Bobby Company, and is marketed by it under the designation "VENT" Brush.

6. In 1975, Hoffman determined to have a copy of the The Bobby Company's "VENT" brush added to the line of hair brushes and hair styling equipment distributed by his companies. Hoffman caused ADL to arrange with a manufacturer in Hong Kong to have The Bobby Company's "VENT" brush duplicated, and ADL began importing copies of this brush into the United States. Since 1975, ADL has imported and marketed a hairbrush which

it has sold at different times under the designation "Image Movement" brush and "Image Air Flow" brush (hereinafter called the subject brushes). The subject brushes are mold copies of and are identical to The Bobby Company's "VENT" brush. ADL distributes the subject brushes through many distributors and dealers, including Supply Company.

7. The subject brushes and the "VENT" brush all contain all of the elements of claims 1, 3 and 4 of the '292 patent, which claims are reproduced above. Polypropylene, which is utilized in both the subject brushes and the "VENT" brush is a flexible material as is defined in the patent. Further, the change in the number of bristles in each tuft is not significant, since a "tuft" of bristles is still a tuft whether it contains a number of bristles or simply one bristle folded over into two bristles, such as is the case in both "VENT" brushes and the subject brushes. The subject brushes thus contain all the elements of claims 1, 3 and 4 of the '292 patent. The sale of the subject brushes by ADL and Supply Company were acts of infringement of the '292 patent. The acts of Hoffman in inducing ADL and Supply Company to sell the subject brushes were acts of infringement of the '292 patent.

8. The Bobby Company's "VENT" brush has enjoyed a great deal of commercial success.

9. Plaintiffs have previously brought three infringement actions for the '292 patent in the Central District of California prior to bringing the present action. All three of these earlier actions ended in settlements in which the defendants in those cases recognized the validity and infringement of the '292 patent and consented to permanent injunctions enjoining them against further infringement of the '292 patent. In each of these actions, the defendants were also importing and marketing mold

copies of the "VENT" brush.

10. The hairbrush shown in the '292 patent is novel.

11. The hairbrush shown in the '292 patent is useful and has significant utility. The Bobby Company markets the "VENT" brush exclusively to professional hair dressers, who have found the brush to be particularly useful in removing tangles from wet hair without damage to the hair, and who have also found the brush to be a useful hair styling tool in blow drying hair. Blow drying is a styling technique in which the stylist holds the brush in one hand and a hand-held dryer in the other hand and simultaneously dries and styles the hair of a patron by manipulating the hair with the brush while directing hot air from the hand-held dryer at the hair and brush.

12. At the time Herschensohn invented the hairbrush of the '292 patent, blow drying was not common in the hair dressing field, and he did not foresee that the hairbrush would be useful as a styling tool in connection with blow drying.

13. The scope and content of the prior at the time of the invention of the '292 patent is shown by the following references which were introduced as exhibits during the trial of this matter:

a. The prior art cited by the Patent Office during the prosecution of the '292 patent:

1. U.S. Patent No. 831, 493 (WILCOX patent)

2. U.S. Patent No. 1,860,923 (COOKE patent)

3. U.S. Patent No. 2,185,050 (CHIRAELLO patent)

4. U.S. Patent No. 2,796,620 (BRESSLER patent).

b. Additional patents cited by defendant:

1. U.S. Patent No. 2,003,243 (CAMPBELL patent)
2. U.S. Patent No. 2,196,812 (KREUTZIG patent)
3. U.S. Patent No. 2,661,007 (BAUER patent)
4. Italian Patent No. 474,383.

c. Prior art brushes and combs introduced by defendant:

1. Empire Brush (Defendant's Exhibit F)
2. Double Duk Brush (Defendant's Exhibit G)
3. Flexible Comb (Defendant's Exhibit H)
4. Williams Brush (Defendant's Exhibit I).

14. The Bressler patent, cited by the Patent Office shows a hair brush which includes a plurality of bristle supporting sections which are parallel to the axis of the brush and which are interconnected by flexible, spring like members to allow the brush to flex around its axis to comform to the head of the user of the brush. The Williams and Double Duk brushes, cited by the defendants, are brushes of a conventional nature in which the block (the relatively flat portion of the brush which supports the bristles) is formed from aluminum, but which include a plurality of slots extending along a portion of the brush between the bristles, with the slots also being parallel to the axis of the brushes. These slots are to enable the brushes to be cleaned more easily, and the brushes are not flexible at all. Thus, these brushes are less pertinent to the invention of the '292 patent than is the Bressler patent which was cited by the Patent Office during the prosecution of the '292 patent.

15. The Cooke patent, which was also cited by the

Patent Office, shows a tooth brush which has a flexible head to enable the brush to conform more closely to the surface of the teeth of the user of the toothbrush. The head is made to be flexible by providing a plurality of notches or recesses along the head. Similarly, the Campbell patent cited by the defendants teaches a toothbrush having a flexible head to enable the toothbrush to conform to the teeth of a user of the toothbrush. The Campbell patent is thus no more pertinent than is the cited Cooke patent.

16. The Chiraello patent, cited by the Patent Office, shows a combined brush and comb which includes a plurality of teeth which contains bristles on one side thereof. The Bauer, Kreutzig and Italian patents cited by defendants all also show combs which include auxiliary teeth or short brush bristles attached to or adjacent to the teeth of the comb and pointing away from the direction of the teeth of the comb, as does the bristles on the Chiraello patent. Thus, these patents also are no more significant to the invention of the '292 patent than is the cited Chiraello patent.

17. The Wilcox patent, cited by the Patent Office, shows an old fashioned comb in which teeth are flexible and longitudinally curved. The flexible comb cited by the defendants is also a flexible old-fashioned style comb and is no more pertinent to the invention of the '292 patent than is the Wilcox patent.

18. The Empire brush cited by the defendants is a brush having a relatively rigid plastic handle and block having no slots or openings therein at all and having a plurality of monofilament plastic bristles extending away from the block of the brush. It is of no pertinence to the '292 patent since Herschensohn has never at any time claimed to be the inventor of a monofilament brush. Indeed, as is found in Finding of Fact No. 7 above, the subject brushes and the "VENT" brush are not even monofilament brushes, since

each tuft of bristles includes a single filament folded to form two bristles in each tuft of bristles, with one bristle being somewhat longer than the other bristles.

19. None of the references cited by the defendants are of any more pertinence to the invention of the '292 patent than are the references cited by the Patent Office during the presecution of the '292 patent.

20. The difference in the prior art and the '292 patent is the provision in the '292 patent of the block of the brush including a flexible spine having a first series of fingers extending laterally from one side of the spine and a second series of fingers extending laterally from the opposite side of the spine, with tufts of stiff bristles extending downwardly from the fingers.

21. The defendants, who have the burden of proof of invalidity of the '292 patent, have failed to present any evidence whatsoever as to what was the level of ordinary skill in the art at the time the invention of the '292 patent was made. However, the Court has carefully independently examined all of the prior art cited above, both the prior art cited by the Patent Office during the prosecution of the '292 patent and the new prior art cited by the defendants, and is unable to conclude that any of this prior art suggests the invention of the '292 patent to the man of ordinary skill in the art.

22. The brush of the '292 patent does produce an unusual or surprising result which would not be expected by the man having ordinary skill in the art. The flexibility of the brush's spine element, when coupled with the plurality of bristle carrying fingers extending laterally on each side of the flexible spine, with the vents between the finger members, allows the brush to be pulled through the hair with remarkable ease. This is an unusual or surprising consequence from the unification of the elements concerned. It is

an unusual or surprising result. It is not merely the sum of the results of the individual elements of the brush but is instead an effect greater than the sum of the effects of the several elements of the brush taken separately.

23. The brush of the '292 patent, while incorporating many existing features of prior art brushes, is significantly different than that which preceded it. All in all, while the brush of the '292 patent at first glance appears to be a rather simple device, it is in fact a truly novel device which possesses great value.

24. The difference between the prior art and the subject matter of the '292 patent as a whole would not have been obvious at the time the invention of the '292 patent was made to a person having ordinary skill in the art to which the '292 patent pertains.

25. As of the date of the Pretrial Conference Order in this matter, which was March 15, 1976, the defendants' had made profits in the amount of $25,000 by their infringing activities.

CONCLUSIONS OF LAW

1. A patent is presumed valid. The burden of establishing invalidity of a patent rests upon the party asserting it. 35 USC 282, *Park-In Theaters v. Rogers,* 130 F.2d 745 (9th Cir. 1942), *Patterson-Ballagh v. Moss,* 201 F.2d 403 (9th Cir. 1953).

2. Prior art that is cumulative to art cited by the Patent Office does not destroy the presumption of validity. *Saf-Gard Products Inc. v. Service Products, Inc.,* 532 F2d 1266 at 1271, (9th Cir. 1976). The presumption of validity is strengthened when the defendants are unable to cite more pertinent references. *Neff Instrument Corp. v. Cohu Electronics, Inc.,* 298 F2d 82 at 86 (9th Cir. 1961).

3. However, finding that the presumption remains applicable does not end the inquiry because defendants could, by clear and convincing evidence, rebut it. *Hayes Spray Gun Co. v. E.C. Brown Co.,* 291 F.2d 319 at 322, (9th Cir. 1961); *Patterson-Ballagh Corp. v. Moss, supra; Saf-Gard Products, Inc. v. Service Products, Inc., supra.* This the defendants have failed to do.

4. In determining the unobviousness of an invention under 35 USC 103, the trier of fact must make the following factual determinations: 1) the scope and content of the art at the time the invention was made; 2) the difference between the prior art and the claims of the patent; 3) the level of skill of the man having ordinary skill in the art at the time the invention was made. *Graham v. John Deere,* 383 U.S. 1, (1966).

5. Since the '292 patent is in large part a combination patent, this Court must apply the principles of patentability with "special strictness". *Jeddeloh Brothers Sweed Mills, Inc. v. Coe Manufacturing Co.,* 375 F.2d 85 at 88 (9th Cir. 1967). In examining combination patents, the Supreme Court indicated that a device is not an invention unless there are "unusual or surprising consequences from the unification of the elements . . . concerned." Great *Atlantic & Pacific Tea Co. v. Supermarket Equipment Company,* 340 U.S. 147 at 152 (1950). The Ninth Circuit has formulated the test in a similar fashion, stating that the combination of old elements must produce an "unusual or suprising result." *Hewlett-Packard Co. v. Tel-Design, Inc.,* 460 F.2d 625 at 629 (9th Cir. 1972).

6. The '292 patent meets the standards for invention set forth by the Supreme Court in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., supra.* and in *Sakraida v. Ag Pro, Inc.,* ____, U.S. ___ (1976) and by

the Ninth Circuit in *Hewlett-Packard Co. v. Tel-Design, Inc., supra.*

7. The '292 patent is new, useful and not obvious to one having ordinary skill in the art. As such, it is a valid patent. 35 USC 101, 35 USC 103.

8. Plaintiffs' brush has enjoyed a great deal of commercial success, the '292 patent has been recognized as valid by others, and the defendants in this action have blatently copied plaintiffs' brush. While such considerations will not overcome the lack of invention, they do further strenghten the presumption of patent validity. *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., supra* at 153; *Calhoun v. United States,* 339 F.2d 665 (Ct. Cl. 1904); *Troy Co. v. Products Research Co.,* 339 F.2d 364 at 367 (9th Cir. 1964).

9. In this case, the invention of the '292 patent turned out to have uses beyond that envisioned by the inventor at the time he made the invention. However, a patentee is entitled to rely upon subsequent events which render his device more valuable. An inventor is entitled to whatever merits his invention has, even though they may be greater than he supposed, and the patent is not valid because all of its advantages or possibilities were not understood or known to the inventor at the time of the invention. *4 Deller's Walker on Patents,* 2nd Edition, Section 238; *Tapco Products Co. v. Van Mark Products Corp.,* 446 F.2d 420 at 429 (6th Cir. 1971, Cert. denied ____ U.S. ____ 172 USPQ 1 (1971); *Triangle v. National Electric,* 149 F.2d 87 (3rd Cir. 1945) Cert. denied 326 U.S. 744 (1945).

10. The acts of the defendant ADL and of the defendant Supply Company in selling the subject brushes were acts of infringement of the '292 patent. 35 USC

271(a), *Graver Tank & Manufacturing Co. v. Linde Air Products, Co.*, 339 U.S. 605, 607 (1950).

11. The acts of defendant Hoffman in causing defendant ADL and Supply Companpy to import and sell the subject brushes were acts of infringement of the '292 patent. 35 USC 271(b).

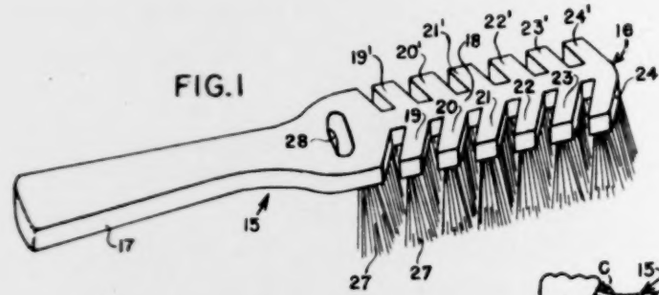
12. Plaintiffs are entitled to damages equal to the amount of profits realized by defendants as a result of their infringing activities, plus interest and costs incurred. Defendants profits realized as a result of their infringing activities up to the date of the Pretrial Conference Order was $25,000. Plaintiffs are entitled to a Judgment in this amount plus an accounting for all profits realized by defendants as a result of their infringing activities since the date of the Pretrial Conference Order. 35 USC 284.

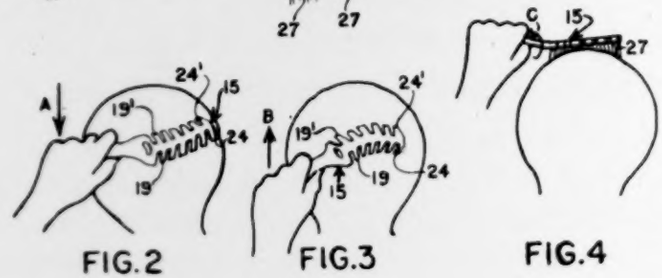
13. Defendants ROBERT M. HOFFMAN, ADVANCED DESIGN LABORATORIES, INC. HOFFMAN BEAUTY AND BARBER SUPPLY CO., their agents, officers, servants, employees, attorneys and all persons in active concert with them who receive actual notice of this order by personal service or otherwise shall be and hereby are forever enjoined and restrained from infringing plaintiffs United States Letters Patent 3,253,292. 35 UCS 283.

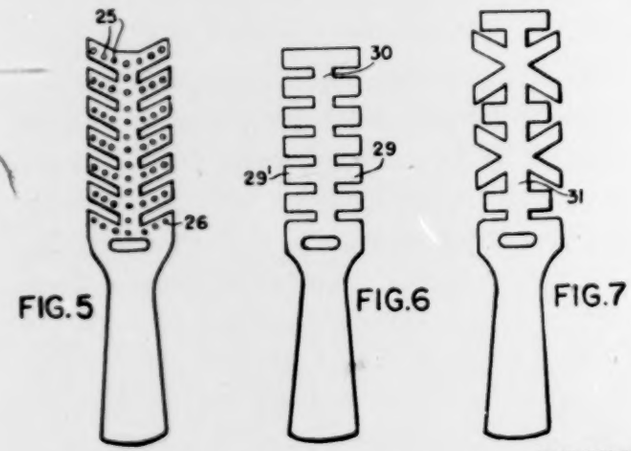
DATED: February 25, 1977

LAUGHLIN E. WATERS,
United States District Judge

May 31, 1966 A.M. HERSCHENSOHN 3,253,292
HAIR BRUSHES
Filed May 15, 1964







INVENTOR,
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UNITED STATES PATENT OFFICE

3,253,292
Patented May 31, 1966

3,253,292
HAIR BRUSHES

Arthur M. Herschensohn, 3 Lorraine Place,
Scarsdale, N.Y.

Filed May 15, 1964, Ser. No. 367,767
4 Claims. (Cl. 15-201)

The present invention relates to hair brushes.

An object of this invention is to provide novel and improved hair brushes affording mechanical action to penetrate thick tresses, dig to the scalp and cause drag on the hair and scalp to accomplish the effects of massage and which brushes by their automatic manipulations give users a new hair-brushing sensation.

It is to be noted that a hair grows from the bottom of a little pit or follicle; the part which lies within the follicle being known as the root. Connected with each follicle are small muscles of plain muscular tissue. The ducts of what are known as the sebaceous glands, open into the hair-follicles and secrete a fatty oily substance (sebum) which they discharge into the hair-follicles, which action in the opinion of medical authority occurs upon actuation of said muscles. The sebum lubricates the hairs and renders them glossy. All hair, except at the roots, are not alive.

Heretofore, the action of a brush passed through the hair merely wiped the hair and scratched the scalp. The wiping of the hair spread any oily substance, evenly therealong. Only the dead part of the hair got any action from the brushing. The live part got none.

It is therefore another object of this invention to provide a novel and improved hair brush which will agitate the root of the hair and its associated muscle tissue and environs to bring additional sebum to the hair and thus, after repeated brushings, there would be a material increase in the luster of the hair.

Only if hairs are tightly entwined or knotted, would any attempt to brush them cause them to be pulled. Brushing hair through which a comb can easily be passed, does not pull the hair. There is nothing to intercept the brush bristles and there is nothing to make the brush bristles to tug the hair. There is nothing to bring exercise to the hair root and its associated muscle tissue.

It is therefore another object of this invention to provide a novel and improved hair brush which in its normal manipulation will automatically pinch and tug the hair and thus exercise the hair roots and their environments.

Still a further object thereof is to provide a novel and improved hair brush of the character described, which is easily cleanable, simple in construction, reasonable in cost to manufacture and efficient in carrying out the purposes for which it is designed.

Other objects and advantages will become apparent as this disclosure proceeds.

For one practice of this invention, the brush back consists of a central resilient elongated spine in extension of a handle and having a series of closely spaced ribs extending laterally therefrom in the manner of fingers from its opposite side edges and there are bristle tufts extending from the undersides of said spine and its ribs. Said spine is flexible in the general plane of the fingers and in directions perpendicular to said plane as well as to some degree in torsion.

I will now set forth in detail several embodiments of this invention, for which I shall refer to the accompanying drawing forming part of this specification, in which drawing, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 is a perspective view of a hair brush embodying the teachings of this invention.

FIGS. 2, 3 and 4 are pictorial views showing the brush in use and various conditions assumed by its structure due to its movement or handle manipulation. These views are drawn to a reduced scale.

FIG. 5 shows the underside of a modified form of brush back including the sockets in the spine and ribs in which bristle tufts are to be mounted.

FIG. 6 shows the upper side of another form of brush back.

FIG. 7 shows the upper side of still another brush back design.

FIGS. 5-7 are drawn to a smaller scale than that of FIG. 1.

In the drawing, the numeral **15** designates generally a hair brush of the type comprising a brush back indicated generally by the numeral **16** having a handle **17** integral therewith. This unitary member may be of any suitable flexible plastic as polypropylene for instance. Said brush back consists of a spine element **18** which is centrally of the handle and extends therefrom as a canti-lever having a series of ribs or fingers which are closely spaced and extend laterally therefrom from both side faces thereof. All the elements comprising said brush back and the handle are generally coplanar. The fingers along one side of said spine element **18** are designated by the numerals **19-24**

respectively while the fingers along the other side are denoted by the numerals **19'-24'** respectively. Said spine and all its fingers, on their undersurface, have closely spaced sockets as in the manner shown in the modified embodiment of FIG. 5 and indicated by the numeral **25**. Even the handle part may have some sockets **26**, into all of which sockets are mounted bristle tufts as **27**, to extend therefrom. The numeral **28** denotes a hole which may be provided through the handle portion. The spine element **18** is bendable and resiliently flexed when moved so its distal end moves sidewise in either direction, up or down and even permits some torsional stressing thereof for twisting movement. This brush of FIG. 1, has its fingers arranged in pairs which as shown, diverge towards the handle **17**. In the embodiment shown in FIG. 6, corresponding fingers as indicated at **29, 29'** are in alignment and perpendicular to the spine element **30**. In FIG. 7, the fingers as shown, are arranged in a combination of such relationships with respect to the spine element **31** thereof. The several embodiments are given as examples of various designs the brush may have, in order to function in accordance with this invention.

It is evident that the extensive openwork of the brush back offers easy cleaning of the entire brush structure by merely allowing a flow of water therethrough, but such openwork has been provided to allow various other manipulations and thus accomplish various actions of the brush, which will be explained by referring to the FIGS. 2, 3 and 4 of the drawing. In FIG. 2, the bristles have been dug into the hair at the back of the head **33** and the brush **15** is being moved downwardly as indicated by the arrow "A." What happens, is that the spine element **18** becomes bent so it is convex on its leading side whereby the tips of the fingers of the series **19-24** will spread apart and of

course, said spine element **18** will be concave at its trailing side, hence the tips of the fingers of the series **19'-24'** will come towards each other, causing the bristle tufts to pinch the hair between them, for the bristles are of generally stiff material. The attendant movement of the brush will cause the pinched hair to be tugged, dragged on and pulled. The thicker the hair mass is, the sharper will be the curvature assumed by the spine element **18**. In FIG. 3, upon upward movement of the brush as indicated by the arrow "B," or in any direction for that matter, the tips of the brush fingers on the trailing side will always approach each other and hence pull the hair, by the action of their bristles. In FIG. 3, the pinching and pulling of the hair is by action of the series **19-24**. Augmented penetrating action is imparted to the brush as well as to the pressure of the bristles against the scalp, by bending the handle **17** away from the head as in FIG. 4, and further brushing effectiveness can be had by a twist of the wrist to twist the handle a bit as it indicated by the rotational arrow "C" in FIG. 4. Of course, when the brush is free of flexing forces, it will assume its normal straight condition as is shown in FIG. 1.

This invention is capable of numerous forms and various applications without depar ing from the essential features herein disclosed. It is therefore intended and desired that the embodiments shown herein shall be deemed merely illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific description and showings herein to indicate the scope of this invention.

I claim:

1. In a hair brush of the character described, a handle, a brush back comprising a flexible spine element extending as a cantilever from said handle, a first series of

closely spaced fingers extending laterally from one side and a second series of closely spaced fingers extending laterally from the opposite side of said spine element and tufts of relatively stiff bristles extending downwardly from at least the fingers of said brush back whereby when the brush is pulled through hair through which a comb can pass, said spine will bend so that the distal ends of the fingers on the trailing side of the brush will approach each other.

2. A hair brush as defined in claim **2**, wherein said spine element is stressible in torsion.

3. A hair brush as defined in claim **1**, wherein the handle is elongated and said spine element extends from an end of said handle.

4. A hair brush as defined in claim **1**, wherein the fingers of the first series and those of the second series extend from opposite regions of the spine element respectively.

REFERENCES CITED BY THE EXAMINER

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